Letter For Electronic Distribution

Original signed letter on file at the following address:

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April 4, 2000

Mr. John Dirickson, P.E.
Environmental Engineer
Naval Air Station, Fallon
Public Works Department
Environmental Division-Code 187JD
4755 Pasture Rd.
Fallon, NV 89496

RE: NDEP Response to Site 10, GATOR Compound
Draft Final Decision Document, August 27, 1999, Sites 4, 7, 9, 10, 11, 12, 17, 18, 19, 23, and 24
Remedial Investigation/Feasibility Study
Naval Air Station Fallon

Dear Mr. Dirickson:

Nevada Division of Environmental Protection (NDEP) staff has reviewed NAS Fallon's Report entitled *Decision Document, Sites 4, 7, 9, 10, 11, 12, 17, 18, 19, 23, and 24, Draft Final*, dated August 27, 1999. This report was prepared in response to a series of NDEP letters which commented on NAS Fallon's report entitled *Record of Decision, Sites 4, 5, 7, 8, 9, 10, 11, 15, 17, 18, 19, 23, 24, 25, 26, 27 Naval Air Station Fallon* (ROD), dated June 5, 1998. Due to significant changes between the Draft Final Decision Document and the Record of Decision, the referenced Draft Final Decision Document was reviewed as a draft document instead of a draft final. NDEP's comments on Site 10, Gator Compound, are addressed in this letter.

The level of detail and explanation presented in the Draft Final Decision Document does not appear to adequately explain the nature and extent of soil and groundwater contamination associated with Site 10. Additionally, based on interpretations presented by NAS Fallon after the Remedial Investigation (RI) Report was completed in September 1994, and on NDEP's review of site conditions and supporting documentation to verify information provided in the Draft Final Decision Document, the NDEP remains concerned that significant data gaps remain. In particular, it appears that potential contaminant sources associated with Site 10 were not adequately investigated during the Remedial Investigation/Feasibility Study (RI/FS). These contaminant sources include the area near monitoring well MW77 (located just north of Site 10) where a total petroleum hydrocarbon (TPH) concentration of 7,200 mg/kg was detected in soil, and the PCB transformer storage area where no investigation activities appear to have been conducted. Furthermore, no on-site groundwater investigation was completed for Site 10. Due to a lack of site characterization data, Site 10 cannot be adequately evaluated.

The Draft Final Decision Document needs to be available to the public for review as appropriate, and an accurate record in the Decision Document is required so that an informed decision can be made. The Decision Document needs to be prepared so that the public can understand that potential contaminant sources at Site 10 were not fully investigated during the RI/FS. Accordingly, the Decision Document needs to include a description of all site characterization work performed after the RI Report was completed in September 1994, including work associated with monitoring well MW77. The Draft Final Decision Document does not address monitoring well MW77. Contaminant concentration contour drawings need to be updated to include contaminants that were identified in groundwater in MW77 and the excavation. The drawings need to be consistent with drawings presented in the draft Comparison of Groundwater Alternatives Report (CGA Report), dated December 1997, and the January 1997 Progress Report. These deficiencies need to be corrected in a revised Decision Document.

Formal approval of a "No Further Action" Decision Document is based on the extent of the investigation and remediation, an understanding of the nature and extent of contamination, documentation in the administrative record, and post closure care which includes institutional controls, land use restrictions, and/or post-closure monitoring. Based on a review of data collected during the RI/FS, the NDEP is concerned that the nature and extent of contamination at Site 10 has not been fully characterized. Of considerable concern to the NDEP is that documentation to support the "No Further Action" recommendation in the Draft Final Decision Document does not appear to be included in the administrative record. In a letter dated January 22, 1999, the NDEP requested that supporting documentation (including logs for borings and excavation pits, laboratory analytical reports, and the Sampling and Analysis Plan for the RI/FS) be provided to the NDEP. These documents have not been received. In consideration of these factors, the NDEP cannot concur with "No Further Action" at this time.

The NDEP will consider "No Further Action" for Site 10 after NAS Fallon either performs additional investigative work or prepares an acceptable post-closure monitoring plan approved by the NDEP. Post closure monitoring requirements and associated long-term costs will depend on the extent to which Site 10 is characterized. NDEP's comments on the Draft Final Decision Document for Site 10 are attached to this letter. NAS Fallon must respond to these comments prior to NDEP approval of "No Further Action". NAS Fallon has not responded to many of NDEP's comments presented in the letter dated January 22, 1999. Comments in that letter which were not addressed in the Draft Final Decision Document are reiterated in the comments attached to this letter.

Since many of the issues regarding Site 10 have been on-going and unresolved for an extended period of time, please provide a time frame for addressing the comments in this letter within 30 days. If we as project managers cannot agree on a process to a resolve these issues, the NDEP will need to initiate the dispute resolution process. If you have any questions, or need further clarification, please do not hesitate to contact me at (775) 687-4670, extension 3053.

Sincerely,

Jeffrey J. Johnson, P.E.
Geological Engineer
Bureau of Federal Facilities

JJ/js

cc:
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COMMENTS ON THE DRAFT FINAL DECISION DOCUMENT
SITE 10, GATOR COMPOUND

1. Page 1, third paragraph: The Draft Final Decision Document states: "*The decision not to undertake a remedial action for this site is consistent with the factors set forth in the National Contingency Plan (NCP) 40 CFR part 300, and Nevada Administrative Code (NAC) Sections 445A.226 through 445A.22755. This decision was based on one or more of the following"* (three bulleted reasons follow).

   The NDEP cannot concur with the above statement for the following reasons:

   - Supporting documentation appears to be missing from the administrative record. Therefore, NAS Fallon does not appear to be in full compliance with 40 CFR Part 300, Subpart I: Administrative Record for Selection of Response Action. See comments **7, 8, 12** and **15.**

   - Groundwater contamination exist at the site. Therefore, the statement presented after the second bullet on page 1 appears to be inaccurate. Due to the potential for groundwater from Site 10 to discharge to surface water, the action level for dissolved TPH in groundwater is 1.0 mg/L. See Comments **3** and **8**.

   - A quantitative risk assessment for soils was not conducted for Site 10, and analytical results from the groundwater sample collected at Site 10 were not included in the risk assessment for groundwater. Therefore, the statement after the third bullet appears to be inaccurate. See comment **10**.

   - Potential exposure of contaminants to human populations, animals or the food chain cannot be fully evaluated because the soil and groundwater investigation at Site 10 was very limited. Also, conclusions in the Draft Final Decision Document do not appear to have considered the presence of contamination discovered after the RI Report was completed. Therefore, the statement after the first bullet appears to be inaccurate. Site 10 is located near the Lower Diagonal Drain and potential exposure of contaminants to human populations, animals and the food chain may need to be properly assessed. See comments **3, 7, 8**, and **13**.

2. Page 1, last paragraph in Section I: The Draft Final Decision Document states: "*The Nevada Division of Environmental Protection (NDEP) has reviewed this document and concurred with this decision. There are not any nationally significant or precedent setting issues for this site*."

   The NDEP concurrence with "No Further Action" for this site in letters dated May 17, 1994, and August 21, 1997 was based on the assumption that reasonably supporting documentation would be formally presented in the Decision Document. However, numerous issues which are detailed in the comments in this letter have not been acceptably supported by documentation. Because supporting documentation has not been provided, the NDEP cannot sign off on a "No Further Action" Decision Document for Site 9 at this time. The NDEP will consider "No Further Action" action after these issues are resolved and supporting documentation is provided.

3. Page 2, Section A, last paragraph: "*No contamination was found in relation to the activities at Site 10 and the source of the groundwater contamination below the site is from the dissolved plume from the up gradient Site 16, Old Fuel Farm. The groundwater remediation will be accomplished as part of the Site 16 remedial action."*

The NDEP does not concur with this statement. Site 10 is approximately 1,300 feet south of Site 16, and investigation activities conducted after the RI Report was completed suggest the source of contamination at Site 10 is south of Site 16 and may possibly exist at Site 10. Based on information provided in the January 1997 Semi-Annual Progress Report (page 94), the source of contamination at Site 10 may be from leaking underground PVC pipes (locations unknown) or from the MW77 area, approximately 50 feet north of Site 10. A TPH concentration of 7,200 mg/kg was analyzed in a soil sample collected from MW77. The January 1997 Progress Report also states on page 94 "*The presence of a diesel source area downgradient of the Old Fuel Farm is further substantiated by the transition from dissolved GRO in MW25U, to GRO and DRO in MW65, to DRO in GTI16-1, MW77, and MW26*." Also, Figure 2.41 in the CGA Report (page 2-137) shows MW77 being the source of a TPH-E plume in groundwater. This information needs to be included in the Decision Document, and NAS Fallon's interpretation regarding the source of contamination at Site 10 needs to consider this information. See Comments **7** and **8**.

If groundwater remediation at Site 10 is to be included with groundwater remediation at Site 16, contaminants of concern (COC) must be compared to ensure that remedial activities are appropriate. PCBs, volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) were listed as potential COCs at Site 10 in the Preliminary Assessment/Site Inspection (PA/SI) Report. Supporting documentation indicates the PCB transformer storage area at Site 10 was not investigated in accordance with recommendations provided in the PA/SI Report. If Site 10 is included with the Site 16 remedial program, PCB's need to be considered COCs for remediation of the Site 16 plume. See comment **7**.

4. Pages 2, Section 1.2 Geology: Site-specific geological information for Site 10 was not provided in the Draft Final Decision Document. However, limited geological information was provided in the Preliminary Site Characterization Summary (PSC Summary) dated January 1992. The PSC Summary shows that a former Carson River channel sand exists just south of Site 10, possibly intersecting the Lower Diagonal Drain (page 142). The PSC Summary states on page 156 for Sites 10, 11, 16, 17, 19, and 23 "*A former Carson River channel apparently skirts the plume boundary on the southwest and may also represent a preferential flow path for contaminated groundwater. Additional investigation is recommended for this part of the plume*". It is unclear how this channel sand affects the migration of contaminants from Site 10. The extent of post-closure monitoring for Site 10 will depend on the level of understanding of contaminant transport in this area. A discussion regarding this channel sand needs to be provided in the Decision Document.

   A description of geological conditions for Site 10 also needs to address the types of soil logged in monitoring wells MW77 and MW78. Soils in MW77, located just north of Site 10, include silty sands to a depth of 4 feet followed by 6 feet of sand in the upper aquifer. MW78, located several hundred feet downgradient of the site, consists mostly of sandy silt with some sands. See Appendix A in the January 1997 Progress Report.

5. Page 5, Section F, last paragraph: The Draft Final Decision Document states "*The Draft Decision Document dated November 1995 for 6 sites including Site 10 was published on 31 January 1996 in the Lahontan Valley News and the Fallon Eagle Standard. These community participation activities fulfill the requirements of the CERCLA: Section 113(k)(2)(B)(I-v) and 117(a)(2). The Administration Record is available for review at the Churchill County Library.*"

   The draft Decision Document dated November 1995 (received by NDEP January 23, 1996) was never completed by NAS Fallon. The NDEP provided comments in a letter dated March 5, 1996. Due to the elapsed time since the original draft Decision Document was published, NAS Fallon's failure to respond to NDEP's comments and complete the document, and the fact that the current document will contain

different information, community participation during review and approval of the revised Draft Final Decision Document may need to be addressed again.

Based on Appendix A in the Draft Final Decision Document (Administrative Record), the documents listed below were not included in the administrative record. These documents need to be listed because they contain data, factual information, and analyses that form the basis for the selection of the response action.

- Progress Reports that included data or interpretations for Site 10. This request is consistent with NDEP's letter dated March 5, 1996.
- Logs for the five borings drilled in the hazardous waste storage area.
- Logs for the three excavations.
- Laboratory analytical reports.

6. Page 5, Section III, Investigation Summary: The Draft Final Decision Document states "*The Phase II RI for Group IV Sites consisted of conducting 2 geophysical surveys, 29 soil borings, 202 groundwater test borings, 25 monitoring wells, and 9 piezometers. Most of these investigations were conducted to evaluate the dissolved and free product plumes on Site 14 and 16.*"

   Most of these activities cannot be used to evaluate the nature and extent of contamination at Site 10. Those activities pertinent to Site 10 should be pointed out in this section. For Site 10, onsite investigation activities during the RI/FS included drilling five borings in the southeast corner of the site to a depth of four feet, excavating three pits, drilling 5 groundwater test borings, all of which detected contamination (two just north of Site 10 and three just south of Site 10; see Figure 10.5 in the RI Report, page 10-18), and conducting one geophysical survey. Monitoring well MW77 was installed just north of Site 10 after the RI Report was completed.

7. Page 6, Section A, Vadose Zone and Soil: The Draft Final Decision Document States "*No soil contamination was detected at Site 10. ..... In December 1993, NAS Fallon Environmental Division investigated three areas of high conductivity, delineated by the geophysical survey. The three areas were excavated to the water table (approximately 6 ft) and revealed no cans containing PCB laden oil or any other contamination. .... The geophysical survey results could have been associated with aircraft debris beneath the surface or compositional variations in the fill and native soils*"

   The first sentence in the above statement appears to be based on analytical results for soil samples collected from the five borings located in the former hazardous waste storage area. Soil contamination does not appear to have been investigated anywhere else on the site. The PA/SI Report recommended that soil samples be collected at the former PCB transformer storage area, and that the soil samples be analyzed for PCBs. Based on information presented in the RI Report, no soil samples were collected in this area and the basis for not collecting soil samples in this area was not provided. It appears that RI/FS activities were not completed in accordance with the PA/SI recommendations, and that the investigation of contaminants in soils at Site 10 may not be complete. This issue needs to be addressed in the Decision Document.

   Based on data and conclusions presented after the RI Report was completed in September 1994, soil contamination may also exist in other portions of Site 10. Based on the January 1997 Progress Report (starting with page 93), monitoring well MW77 was installed during March 1996. The location of MW77 appears to be approximately 50 feet north of the Site 10 boundary. A high concentration of TPH as diesel (7,200 mg/kg) was identified in a soil sample collected from MW77. Additionally, Figure 2.41 in the draft CGA Report dated December 1997 (page 2-137), and Figure 16 in the January 1997 Progress Report

(page 97) show that the highest TPH concentrations in groundwater in this area are located at MW77. The extent of soil and groundwater contamination in this area was not investigated. MW77 appears to be located near a source of contamination which could be associated with Site 10. This information needs to be included in the Decision Document, and needs to be considered during the decision process.

In regards to the three excavations, no test pit logs were submitted to the NDEP and no soil samples were collected from the pits. Additionally, the basis for not collecting soil samples for analysis was not provided to the NDEP. If data collected from the excavations are used to support "No Further Action", then supporting documentation must be provided. See comment **15**. It is possible that groundwater contamination in the excavation at Site 10 may be related to contamination identified in monitoring well MW77.

Table 1 summarizes analytical results for soil samples collected from Site 10. Concentration units in some of the column headings and in the notes below the table need to be corrected.

8. Page 6, Section B, Groundwater, first paragraph: The Draft Final Decision Document states "*No groundwater investigation was conducted at Site 10 due to the lack of potential contamination source at the site. However, the Group IV Sites investigation drilled 202 groundwater test boring and installed 25 monitoring wells and 9 piezometers. These investigations were conducted to evaluate the dissolved and free product plumes on Site 14 and Site 16. Some of these groundwater test borings and monitoring wells were installed near Site 10. In addition MW78 was installed in the spring of 1996. It is immediately down gradient from Site 10 and has been sampled and analyzed for TPH-E and VOC's. All results were below reportable limits.*"

   The NDEP does not concur with the statement that there is a lack of a potential contaminant source at Site 10. A TPH concentration of 7,200 mg/kg was analyzed in a soil sample collected from MW77 which is located approximately 50 feet north of site 10. The extent of TPH contamination in this well was not investigated, and it has not been confirmed that contamination in MW77 is not associated with Site 10 activities. This information needs to be included in the Decision Document. Please see comments **3** and **7**.

   Most of the 202 test borings, 25 monitoring wells, and 9 piezometers identified in the above statement cannot be used to assess the presence of contamination at Site 10. Wells and borings which are pertinent to Site 10 should be pointed out in this section. The Decision Document needs to clarify that MW77 is the nearest monitoring well to site 10, and that a source for groundwater contamination may exist near MW77. Figure 2.41 in the CGA Report (page 2-137) shows MW77 being the source of a TPH-E plume in groundwater.

   MW78 needs to be located on the figures in the Decision Document, and the distance between Site 10 and MW78 needs to be clarified. It appears that MW78 is located several hundred feet downgradient of Site 10. The Decision Document also needs to state that MW78 was sampled only once in September 1996. The Decision Document needs to include a discussion on the groundwater sampling frequency and justify why the number of samples collected and the analyses performed are adequate to justify "No Further Action."

   Based on data presented in the Draft Final Decision Document, a groundwater sample was collected in December 1993 from an excavation at Site 10. The purpose of the excavation was to investigate the existence of cans containing PCB-laden oil. The groundwater sample collected from the excavation was analyzed for TPH and VOCs, but not for PCBs which were being investigated. The Decision Document

needs to provide the basis for not analyzing the sample for PCBs. It also appears that logs for the Site 10 excavation and analytical reports for the groundwater sample, were not provided to the NDEP. This supporting documentation needs to be provided to the NDEP if the data are being used to support a "No Further Action" decision. Also, the location of the excavation and groundwater sample needs to be included in the Decision Document figures. See comment **15**.

A detailed investigation for TPH in groundwater is important due to the proximity of Site 10 to the Lower Diagonal Drain. The action level for TPH in groundwater at the drainage canal is 1 mg/L (see page 1-18 of the RI Report). Additional references that discuss the TPH action level in groundwater include NDEP's letter dated February 26, 1998 and the Site 16 Engineering Evaluation and Cost Analysis (EECA) (page 2-29). Due to a lack of investigation and monitoring associated with Site 10, it is unknown if the action level for TPH in groundwater has been exceeded downgradient of Site 10. The Decision Document needs to discuss the proximity of Site 10 to the Lower Diagonal Drain, and the action level for TPH in groundwater.

The Draft Final Decision Document does not include a table summarizing analytical results for groundwater samples collected from monitoring wells MW77 and MW78. A table showing groundwater analytical results needs to be included.

9. Figure 5: An explanation needs to be provided on this figure explaining the conductivity contours.

10. Page 7, Sections C, Risk Assessment Summary: The Draft Final Decision Document states "*A quantitative risk assessment for Site 10 soils was not conducted due to the absence of contamination. Ground-water contamination below Site 10 is a result of overlapping contamination from Site 16.....There is no current exposure, thus no current risk, from the groundwater*".

    The NDEP does not concur with the above statement. The absence of contamination has not been demonstrated or documented. Furthermore, data collected since the RI Report was prepared indicate that Site 16 may not be the source of contamination at Site 10. See comments **3, 7** and **8**.

11. Page 7, Section D, Conclusion: The Draft Final Decision Document states "*No soil contamination was detected from samples collected at Site 10. ..... Groundwater contamination beneath the site is related to the up gradient Site 16, Old Fuel Farm....There are no known sources of contamination due to the Site 10, GATAR Compound.*"

    The NDEP does not concur with these conclusions. See comments **3, 7** and **8**.

12. Page 7, Section IV, Proposed Action: The Draft Final Decision Document states "*No contaminants were detected during the investigation of the Site 10, GATOR Compound. A quantitative human health or ecological risk assessment for soil and ground water were not conducted due to the absence of contamination at the site. Based on this conclusion, the remedial decision for Site 10, GATOR Compound, is No Further action. (ORNL)*"

    The NDEP does not concur with the above statement. Contamination was detected in the only groundwater sample collected from Site 10 and significant contamination was detected in MW77, just north of site 10. Most of Site 10 was not investigated and the extent of contamination from MW77 was not investigated. Supporting documentation related to the soils investigation at Site 10 was also not provided. See comments **3, 7**, **8** and **15**.

The NDEP previously concurred with "No Further Action" at Site 10 as stated in the following correspondence:

- NDEP's letter dated May 17, 1994 states "*The Division concurs with the recommendation of no further investigative or remedial actions at Site 10 at this time. The contaminated groundwater beneath the site will be addressed during remedial actions at Site 16*".

- NDEP's letter dated August 21, 1997 states for Sites 10 and 11 "*No Further Actions are required at these sites. The groundwater monitoring program designed for Site 16 will monitor groundwater at these sites*".

The NDEP will not rescind it's original decision on Site 10. However, due to a lack of data available on the nature and extent of contamination, post closure monitoring will be required if no additional investigative work is completed. Post-closure monitoring must be specific for Site 10 and address the potential contaminants of concern (e.g. PCBs and TPH) which were not completely investigated during the RI/FS. NAS Fallon must propose a post-closure monitoring plan which was addressed in NDEP's letter dated January 22, 1999. See comment **13** below. The Site 10 groundwater monitoring program must be incorporated with the Site 16 groundwater monitoring program when developed.

13. Page 7, Section V, Future Activity at Site 10: NAS Fallon stated that administrative controls will be imposed on Site 10. Administrative controls are subject to future audit. In addition to administrative controls, post-closure groundwater monitoring will be required for Site 10 if additional characterization work is not performed for the following reasons:

    - The extent of contamination in the northern portion of Site 10, near MW77, is unknown.
    - The extent of PCB contamination near the PCB Transformer Storage Area is unknown.
    - Groundwater contamination was not investigated.
    - Site 10 is relatively close to the Lower Diagonal Drain where the action level for TPH is 1 mg/L.
    - Supporting documentation has not been provided.

    The NDEP will consider "No Further Action" for Site 10 when NAS Fallon submits a Post-Closure Monitoring Plan to the NDEP for review and approval to demonstrate that contaminants are not migrating from Site 10. The Plan also needs to address contingency plans for site remediation in case if significant groundwater contamination is detected during monitoring. The extent of post-closure monitoring requirements depends on the extent to which Site 10 is investigated and can be reduced, or eliminated, if additional investigation work is completed.

14. Page 8, Section VI, Recommendations: The Draft Final Decision Document states *"This Decision Document represents the selection of a no action alternative and subsequent closure for Site 10 at NAS Fallon, Fallon, Nevada. The no action alternative was developed in accordance with CERCLA as amended and is consistent with the NCP. This decision is supported by the documents in the administrative record for the site."*

    The NDEP does not concur with the last two sentences in the above statement for the reasons discussed in this letter.

15. NAS Fallon needs to address all comments in NDEP's January 22, 1999 letter for Site 10. Comments which need to be addressed, but were not completely discussed above include the following:

Item 2 in NDEP's January 22, 1999 letter

Accurate drawings must be provided. Site features that are described in the Draft Final Decision Document and which are significant for evaluating site conditions need to be shown on the drawings. In addition to the site features already shown, the drawings in the Draft Final Decision Document need to show the following:

- Monitoring wells MW77 and MW78.
- The groundwater plume associated with MW77.
- The location of the contaminated groundwater sample collected from the excavation, and the extent of contamination.
- Groundwater test holes.

Item 3 in NDEP's January 22, 1999 letter

Information or data that are used to support the "No Further Action" recommendation must include supporting documentation. Documentation does not need to be provided with the Decision Document, but needs to be present in NDEP's files. Supporting documentation for Site 10 that does not exist in the NDEP files are listed below.

- Logs for the five borings drilled in the hazardous waste storage area.
- Logs for the three pits that were excavated to investigate the presence of cans containing PCB-laden oil.
- Laboratory analytical reports.
- Sampling and Analysis Plan for the RI/FS (Volume III of the RI/FS Work Plan)

NAS Fallon needs to either provide the supporting documentation, or state the supporting documentation does not exist and is not included in the Administrative Record.